ALD8 Installation Manual Date: 10-24 Revision 2

Covers Series ALD8 cells

Quick Start Process

Thank you for purchasing the next generation of anolyte cells.. The Thincell.

PLEASE READ THESE IMPORTANT MESSAGES ABOUT YOUR NEW CELLS

Care has been taken in packaging your equipment, please look over the cells and inspect the units for damage. Call ACR if you need assistance 931-854-9383.

Remove the ThinCell units from the crate and lay on a clean flat surface. It is not recommended to stand the cells upright leaning against a structure. If the cell falls from its position, it will typically damage the cell rendering the unit useless.

NOTE: All ThinCell anodes are factory tested prior to shipping. There is no need to leak test ThinCell. Improper testing methods may damage the cell.

Thincells must have the Paint in the tank prior to operating the anolyte circulation system. The paint level should be too full. The membrane needs to wet out prior to exposing the cell to full hydrostatic pressure of the anolyte circulation system.

It is further recommended that when the paint tank is empty, the anolyte circulation system should be shut off, prior to draining the tank. This will eliminate excess pressure in the hanging cell.

The Basics:

There are 3 connections that need to be made after the cell is hung in place.

1) Anolyte in: 3/8" ID clear pvc tubing clamped onto the small grey fitting.
2) Anolyte out: ½" or 5/8" ID Clear reinforced clear pvc tubing clamped to the black fitting.
   Pay attention not to kink the return tubing. Pressure can build up and damage the units
3) Power: Connected with the 75A red quick disconnect or #4 wire terminated to rectifier voltage.

Once installed and paint is in the tank. Check the position of the flow valves and verify they are in the off position. Bypass anolyte flow with the bypass valve by the pump. Open bypass valve slightly to allow pressure to the flow meters. Start the pump and adjust 1 flow meter at a time to 0.50 gpm maximum 0-5 lbs maximum pressure. You may have to increase the bypass position to gain more flow as flow meters are opened. Check balance to verify 0.50 gpm per cell.

IMPORTANT: Check return lines for flow. It takes some time to fill the cells, verify return flow before continuing onto the next cell.

Flow meter may require an adjustment for more flow once running. A steady stream of anolyte solution is required for proper flow. Do not exceed 0.50 GPM standard flow rate.

Gravity return systems are the recommended design. Flex tubing returns induce unwanted back pressure and may be harmful or shorten the life span of the cell.

4) Start production.

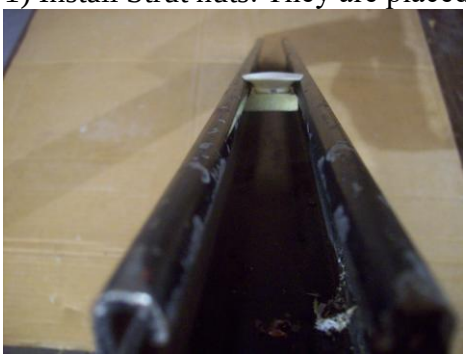
Caution: The Thincell is designed to operate with low overhead paint tanks. The return lines from the cell should not exceed a height of 24" above the cell to the return manifold. Running the return line long distances greater than 10 feet and routed far above the Thincell increases pressure internally and may damage or rupture the Thincell.
A Return manifold that is gravity feed is recommended for an efficient long life Thincell Installation. Do not run the return lines from the cell more than 3 feet with the 5/8" line. Larger line or a manifold is required to lower the pressure build up.
If you have any concerns, call ACR 931-214-3836, prior to installation of your cells. A ruptured cell is not covered under any warranties.

There are many ways to install the Thincell. The most popular is the Strut channel.

Sec. A Strut Channel Installation.
SPACING OF CELLS: The Thincell can be placed as close as side by side with 0 clearance, up to 24" frame to frame.
CELL PLACEMENT:
Hoist: every corner at least one Thincell per side, then evenly spaced.
Conveyor: After full immersion of part, start installation of the first thincell a minimum 5 feet from this point. The front of the tank then receives at least 2 Thincells per side and 2 Thincells at the rear, typically at the same as above with the part fully removed as the point. The remaining cells are evenly spaced.

1) Install Strut nuts. They are placed 9" on center.


Insert a strut nut into channel.


Rotate the nut 90 degrees clockwise.

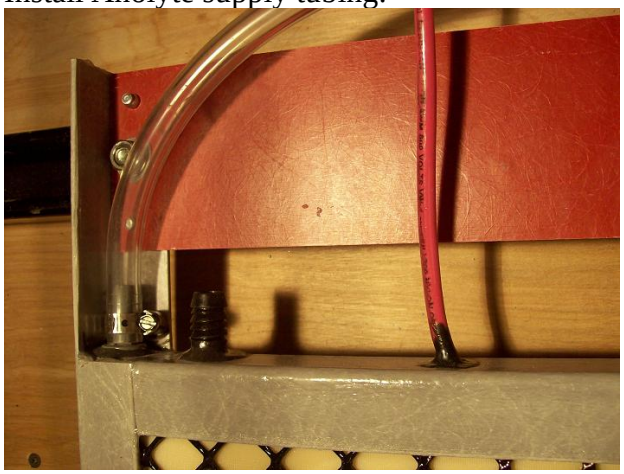
Your installation method may use Strut studs instead of Strut nuts. The process is the same basically.

Measure 9” from stud #1 and repeat installation with nut #2

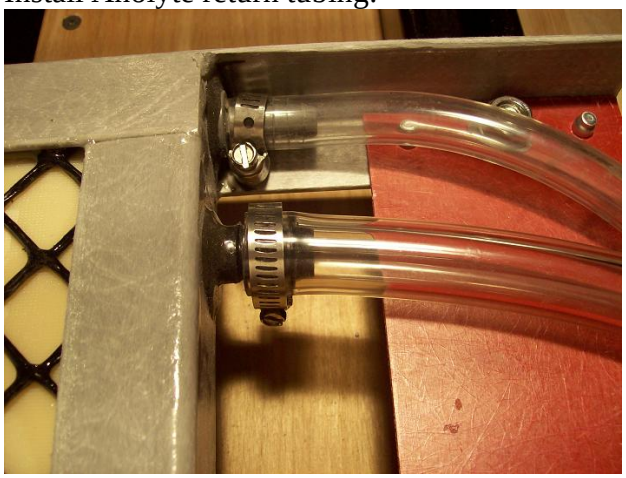
Hanging the Thincell.

Carefully unwrap the thinCell when ready to install, Carry it the tank. Hold the cell and install the ¼” bolt assembly through the cell and into the strut nut.

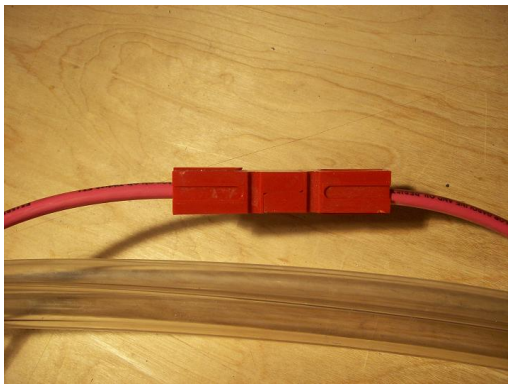
Repeat with the #2 bolt assembly into the #2 nut.
Install Anolyte supply tubing.



Install Anolyte return tubing.



Attach Power.



Shown with optional 75 amp quick disconnects.

Installation complete

Sec B: START UP

Once installed and paint is in the tank to full level. Check the position of the flow valves and verify they are in the off position. Bypass anolyte flow with the bypass valve by the pump. Open bypass valve slightly to allow pressure to the flow meters. Start the pump and adjust 1 flow meter at a time to 0.50 gpm. You may have to increase the bypass position to gain more flow as flow meters are opened. Check balance to verify 0.50 gpm per cell. Check return lines for flow. It takes some time to fill the cells, verify return flow before continuing onto the next cell. DO NOT OVER PRESSURIZE THE CELL. Adjust all the flow meters until you have a good steady flow through the return line. No pulsing of solution should be seen in the return line.

MAXIMUM FLOW RATE SHOULD NOT EXCEED 0.5 GPM Standard ThinCell
IF YOU HAVE EXPERIENCED WHAT APPEARS TO BE SURGING OR PULSING OF THE RETURN SOLUTION CALL ACR

If you don't see any solution returning from the return line, check the return line for kinks. Check the supply line for kinks.

The Thincell will take up to 3 minutes to fill do not rush this process.

Periodically check the flow meters and return lines for flow and color.

Maintenance:

Once cells are in and operating there is no need for maintenance except checking the anolyte circulation flows and color of the solution.
A clear to slight yellow color is normal. Color changes to a red or rusty color indicates poor anolyte flow, which should be increased to spec. Paint colored solution indicates a leak in the cell and the cell requires replacement.

Current usage and Amp draw
Stainless steel anodes have a maximum of 10 amps/sqft.
MMO anodes such as RuO anodes have a maximum of 18 amps/sqft.
The higher the amp draw is to the maximum level the quicker the cell wears and uses its lifespan.

The cells are designed to operate until the anode is dissolved or the membrane becomes blinded by environmental conditions. If your system has a current monitoring system this will indicate 0 amps. The other cells will take up the load until a replacement arrives. Replacement units should be installed as soon as possible to relieve the load to the others.

All cells are warranted for 1 year from the date of installation. ACR warrants against defects in workmanship and materials. Labor, downtime or other expenses are not covered under any warranty. The defective unit must be returned to ACR for examination at the end users' expense with a RGA number, provided by ACR. If the unit is covered under our guidelines ACR will ship a repaired or replacement unit out in a timely manner. A purchase order may be required to repair, replace, and ship a unit to the end user, if warranty is not applicable. The end user must be in good standings with ACR accounting dept for warranty coverage to apply. Cell ruptures due to over pressurization or Anode wear are not covered under any warranties. All warranty coverage is prorated from day of shipping.

Contact us at:
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Email : Tim.walker@anolyte-cell-resources.com

TROUBLE SHOOTING

The Thincell is a high performance and high efficiency anolyte cell. Proper start up will insure a long life. However, if you are experiencing an issue please review the following.

Anolyte return issues:

No solution to return through the return tubing:

1) Verify anolyte pressure is 5 psi Maximum with flow through flow meter and adjust to 0.5 gpm
2) If this cannot be achieved contact ACR customer support

Anolyte solution looks as if it is surging in the tubing.

1) Anolyte flow is too low increase the flow 0.50 GPM then wait 2 minutes and check condition again. Do not exceed 0.50 GPM during this adjustment.
2) The anolyte solution may not completely fill the return tubing. Be advised that the flow is very low 0.3 -0.5 GPM seeing a continuous trickle is correct and proper.
3) Surging is when the anolyte return path has a drop that will allow siphoning from the cell. You will see the tube fill completely with solution, then the tube will be full of air, then back to full of solution.
4) An Anolyte circulation system that has surging requires a higher flow rate up to 0.50 gpm
5) If the condition continues it is recommended to install a surge protector on the cells return line.

Testing an LD8 Model cell:

1) Remove the suspect cell from the ecoat tank in the normal fashion.
2) Hold the cell upside down vertically to drain the contents of the cells anolyte chamber.
3)
4) Use a small 2x4x12" block of wood or similar to elevate the top portion of the cell about 2" off the ground. The bottom of the cell is on the floor.
5) Connect the 3/8"anolyte supply to a regulated DI water source.
6) Connect the ½" return line so that it drains away from the cell.
7) Supply the cell 0.50 gpm
8) If no leaks are found the cell is OK for service. Allow the drain and return to tank.
9) If a cell is bad a leak will appear under this test and will be visually observed. Note: The membrane will allow a small amount of beading up on the exterior. This is referred to as sweating and should not be confused as a leak. A leak will flow out quickly. Over time the outside will naturally become wet. A leak test should only require 30 seconds or so to evaluate.